UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

NOV 24 2014

CERTIFIED MAIL 7012 1010 0001 8097 2478
RETURN RECEIPT REQUESTED

Mr. Jay Tant, P.E.
Assistant Manager, Operations
Harpeth Valley Utilities District
P.O. Box 210319
Nashville, Tennessee 37221

Re: Final Report Letter of Approval and Closure Letter
Administrative Order on Consent, CWA-04-2011-4782

Dear Mr. Tant:

This letter is to advise the Harpeth Valley Utilities District (the District) that the U.S. Environmental Protection Agency Region 4 has reviewed its Final Report submitted on May 23, 2014, pursuant to Paragraph 20 of the Administrative Order on Consent (Order). Based upon this review, the EPA hereby approves the Final Report and has determined that the District has completed the requirements of the referenced Order and hereby closes the Order.

The closure of this Order shall not be deemed an election by the EPA to forgo any administrative, civil or criminal action or other appropriate relief under the Clean Water Act or relieve the District of any obligation it may have under any applicable federal, state or local law.

The EPA appreciates the District's cooperation and pledge to continue implementing the Management, Operations and Maintenance Programs required in the Order. If you have any questions concerning this letter, please contact Mr. Brad Ammons at (404) 562-9769, via email at ammons.brad@epa.gov or send written comments to the address on the letterhead.

Sincerely,

James D. Giattina
Director
Water Protection Division

cc: Ms. Jessica Murphy
Tennessee Department of Environment and Conservation

CWA NPDES Notice of Violations (NOV's)

ROUTING AND TRANSMITTAL SLIP Date: 12/17/14

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. L. Jones/Ammons BB (w/changes) 12/2/14		12/1/14
2. Mattox (Tracking)		12/4/14
3. White/Horsey 12/5/14		12/5/14
4. Bush LL comment		12/9/14
5. Sr. Attorney and/or Chief OWLs		
6. ~~Hicks~~ Ellis/Diaz 12/9/14		12/8/14
7. AM 12/9 Marcus/Giattina		12/9/14
8. White (Mailing/e-filing) / Mattox (Copy)		
9. L. Jones		

	Action		File		Note and Return
X	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate	X	Signature
	Coordination		Justify		

From: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
L. Jones	Phone No. 29201

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions.

REMARKS: CEI Report transmittal and NOV (with 2 year follow-up) for MOM Program Project participant Fort Oglethorpe, GA, satellite collection system to Chattanooga, TN.

Electronic Version Saved on: T:\NPEB\Collection Systems\MOM PROGRAMS PROJECT\Enf-Comp\GA\Cycle 2 - Chattanooga satellites in GA\Fort Oglethorpe\Fort Oglethorpe NOV and inspection report transmittal.docx and \Fort Oglethorpe inspection report.pdf

Contacted State Agency: (Y)/N Date: 12/5/14 Who at State: Louis Hayes
Maurice Horsey emailed

Route in green folder

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 18 2014

CERTIFIED MAIL 7012 1010 0001 8097 2713
RETURN RECEIPT REQUESTED

City of Fort Oglethorpe
c/o Mr. Phillip Parker
Director of Public Utilities
500 City Hall
Fort Oglethorpe, Georgia 30742

Re: Notice of Violation and Report Transmittal for the U.S. Environmental Protection Agency Compliance Evaluation Inspection
Satellite Collection System to Chattanooga, Tennessee

Dear Mr. Parker:

The purpose of this letter is to advise the City of Fort Oglethorpe (the City) that the U.S. Environmental Protection Agency Region 4 has reviewed the Management, Operations and Maintenance (MOM) Self-Assessment information submitted by the City to the EPA on April 16, 2012, as part of the City's participation in the EPA's MOM Program Project. In addition, the EPA has reviewed the City's response dated June 17, 2013, to the information request letter sent by the EPA to the City on May 17, 2013, and has also conducted a Compliance Evaluation Inspection (CEI) of the City's Wastewater Collection and Transmission System (WCTS) on July 22, 2014. The objective of this CEI was to assess the City's compliance with the Clean Water Act (CWA). A copy of the CEI report is included with this letter.

Based upon review of the above information, the EPA has determined that the City has violated the CWA as follows:

During the period of May 2008 through May 2013, the City had at least five Sanitary Sewer Overflows (SSOs) of untreated sewage that discharged from the City's WCTS to navigable waters of the United States as defined by Section 502 of the CWA, 33 U.S.C. § 1362.

At this time, the EPA has decided not to initiate an enforcement action. However, the improvement or development of MOM Programs as recommended in the enclosed CEI report should be implemented to bring the City into compliance with the CWA. The City's progress towards eliminating SSOs will determine if future EPA enforcement actions are warranted. The EPA will monitor the City's progress in improving or developing the required MOM programs during the next two years.

Until compliance with the CWA is achieved, the City remains subject to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. This Section provides for the issuance of administrative penalty and/or compliance orders and the initiation of civil and/or criminal actions.

Please contact Ms. Laurie Jones, of my staff, at (404) 562-9201 or via email at jones.laurie@epa.gov, if you have any questions regarding this Notice of Violation or CEI Report. You may also address written correspondence to Ms. Jones at the address on the letterhead.

Sincerely,

James D. Giattina
Director
Water Protection Division

Enclosure

cc: Mr. Jack Capp, Chief
Georgia Environmental Protection Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4
Water Protection Division
Clean Water Enforcement Branch

COMPLIANCE EVALUATION INSPECTION REPORT

City of Fort Oglethorpe
Catoosa County, Georgia
Satellite system to Chattanooga

Address:
500 City Hall, Fort Oglethorpe, Georgia 30742

Inspection Date:
July 22, 2014

Inspectors:
Laurie Jones, Enforcement Officer, EPA Region 4

Inspection Report Prepared by:
Laurie Jones

November 18, 2014

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ABBREVIATIONS AND ACRONYMS

EPD	Georgia Environmental Protection Division
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
MGD	Million Gallons per Day
CMOM	Capacity, Management, Operation, and Maintenance
NPDES	National Pollutant Discharge Elimination System
SORP	Sewer Overflow Response Plan
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant
AO	Administrative Order
CCTV	Closed circuit television
I/I	Inflow/Infiltration
POTW	Publically Owned Treatment Works

I. OVERVIEW

The City of Fort Oglethorpe (the City) owns and operates a Wastewater Collection and Transmission System (WCTS) that operates as a satellite collection system that discharges to the City of Chattanooga. The City's Public Works Division is responsible for the operation and maintenance of approximately 64 miles of sewer gravity line, 5 miles of force main, 16 pump stations (PS), 1,776 manholes, and other sewer related appurtenances serving approximately 13,790 citizens. There are approximately 5,000 residential service connections and 501 commercial service connections.

On November 18, 2011, the City provided notice to the EPA of its intent to participate in the Capacity, Management, Operation and Maintenance (CMOM) Self-Assessment Program. The City submitted a CMOM self-assessment to the EPA on April 16, 2012, which contained information regarding its existing CMOM programs and sanitary sewer overflow (SSO) history.

On May 17, 2013, the EPA sent an Information Request Letter (308 Letter) pursuant to Section 308 of the Clean Water Act (CWA), requesting follow-up information regarding several issues identified during the EPA's review of the City's CMOM self-assessment. The EPA received the City's response, dated June 17, 2013, to the EPA's 308 Letter on June 20, 2013.

The EPA conducted a Compliance Evaluation Inspection (CEI) of the City's WCTS on July 22, 2014. The purpose of this CEI was to evaluate the City's compliance with the CWA as it relates to SSOs from the WCTS and to assess the City's CMOM programs more thoroughly. Additionally, the purpose of this CEI was to examine the causes and potential corrective actions for SSOs from the WCTS.

During the inspection, the EPA requested written documentation of any CMOM programs that the City may use to operate and maintain the WCTS. The EPA also discussed inspection and maintenance records, interviewed management personnel and visited various sites in the WCTS including the Beaver Road pump station, the Wal-Mart pump station, and four manholes with recent SSO events. This report describes EPA's findings, provides an initial analysis of SSOs from the WCTS, identifies areas that need to be addressed and presents preliminary recommendations.

II. OBJECTIVES

The specific objectives of the CEI were to assess the City's compliance with the CWA, evaluate reported SSOs, assess the City's CMOM programs, where implemented, and to examine the causes of SSOs in the City's WCTS.

III. INVESTIGATION METHODS

The investigation included:

- Review of the City's CMOM self-assessment checklist.
- Review of the City's response to EPA's CWA Section 308 Information Request Letter.
- Interviews with City personnel.
- Review of the City's records/documents.
- Visual inspection of SSO locations in the WCTS and pump stations.

IV. REGULATORY SUMMARY

The Georgia Environmental Protection Division (EPD) is authorized under the CWA to implement the National Pollutant Discharge Elimination System (NPDES) program in Georgia. The City does not have a wastewater treatment facility nor any authorized, permitted discharge points, and EPD does not permit satellite WCTSs, so there is no permit governing the operation and maintenance of the City's WCTS. The City's WCTS is, however, subject to the requirements of the CWA. Specifically, SSOs are prohibited discharges based on Sections 301 and 402 of the CWA which generally prohibit the discharge of pollutants by any person unless authorized by an NPDES permit.

The City is under a Consent Order (CO) with EPD for SSOs from its WCTS. CO #EPD-WQ-4371 was issued on March 17, 2005, and requires the City to pay $1,000 for each SSO that reaches waters of the U.S. until the City has had 12 consecutive months without a SSO; to develop a major spill stream sampling and public notification protocol; to comply with limitations on adding new sewer connections; to document and report each SSO including volume, location, and corrective actions; and to conduct a sanitary sewer evaluation study (SSES) of the entire WCTS.

The SSES was conducted by an engineering contractor group named Arcadis and was completed in May 2006. The SSES included flow monitoring, smoke testing, manhole inspection, and CCTV inspection. The report identified and prioritized numerous locations within the WCTS in need of rehabilitation.

V. INSPECTION SUMMARY AND FINDINGS

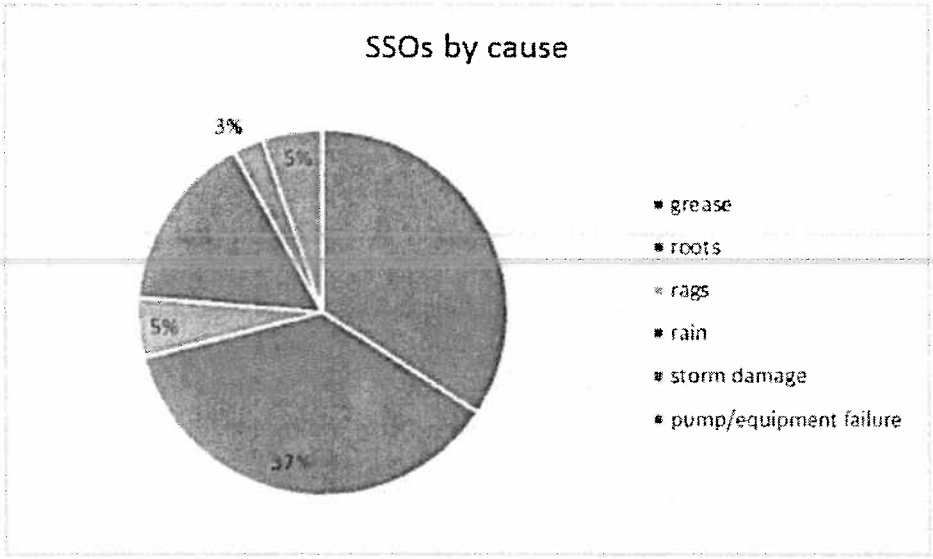
The EPA performed a pre-inspection evaluation and an on-site inspection of the WCTS. The pre-inspection evaluation of the City's WCTS consisted of examining historic records submitted by the City to EPD and to the EPA. This section will provide a summary of both the pre-inspection and the on-site inspection.

A. Pre-inspection Analysis of SSOs

Discharges to waters of the United States (U.S.) from WCTSs are prohibited unless authorized by an NPDES permit.

On June 17, 2013, the City submitted to the EPA information related to SSOs that occurred in the WCTS from June 25, 2010, through May 6, 2013. The City began using their current electronic work order system in 2010; information regarding SSOs prior to 2010 were documented on paper work orders and the City stated that the paper work orders are no longer available. The EPA analyzed the information and compiled results based on total number of SSOs, causes, and volumes. Based on the information submitted in this response, the City reported 38 total SSOs which amount to an annual average of 18.36 SSOs per year per 100 miles of sewer (note that the City has less than 100 miles of sewer, so a multiplying factor is applied to the number of SSOs to get the number of SSOs per year per 100 miles of sewer). Five of these SSOs reached waters of the U.S., one backed up into a home (building backup), and the remaining were reported as land contained. The City only provided volume information on two of the reported SSOs (3,000 gallons and 4,500 gallons). Although the land contained SSOs did not discharge to waters of the United States, they are symptomatic of problems within the WCTS and, if left unaddressed are likely to lead to larger issues in the WCTS and future discharges of raw sewage to waters of the U.S.

The EPA analyzed the trends and causes of each of the SSOs which included six categories: grease, roots, rags, rain, storm damage, and pump/equipment failure. Below is a chart that breaks down the number and percent of total SSOs attributed to each cause as reported in the City's 308 Letter response. Grease, roots, and rain were the main causes of SSOs in the City's WCTS.



In addition, the EPA identified five recurring SSO locations: Polk Circle (cause: roots), Forrest Road (cause: roots), Edgewood Circle (cause: grease), Phillips Drive (cause: grease), and Stephenson Drive (cause: roots).

During the inspection, the EPA asked the City to provide information on SSOs that have occurred since the 308 response which provided SSO data through June 2013. The information was provided to EPA while on-site. 18 additional SSOs occurred from June 2013 through July 2014, however the cause, volume, and ultimate destination of these SSOs were not recorded so it could not be determined how many of these reached waters of the U.S. Also, one additional recurring location was identified at 76 Elaine Circle.

B. WCTS Characterization

The City's WCTS is made of vitrified clay (35%), polyvinyl chloride (48%), ductile iron (5%), fiberglass (9%), and high density polyethylene (3%). Approximately ¾ of the WCTS is less than 25 years old, approximately ¼ is 26-50 years old, and the remainder is 51-75 years old.

C. WCTS Maintenance and Rehabilitation Efforts

The City's Public Utilities Department handles sewer and drinking water issues. There are nine employees and all but one are trained to respond to SSOs. WCTS lines are not routinely inspected via closed circuit television (CCTV), only after certain SSO events. When not responding to SSO events or other emergency situations in the WCTS, the field crew conducts regular jetting and maintenance on the WCTS lines. Preventive maintenance work orders are managed through the City's electronic recordkeeping system; however, there is no written procedure or protocol for regular preventive maintenance.

A list of hotspots is maintained and the hotspots are jetted regularly. In addition, the City has done trenchless sewer rehab and cured in place lining to address some of the hotspots. The City does not have a formal procedure for updating the hotspot list and it was most recently updated three months ago.

City personnel stated that they do not have frequent root intrusion issues in the main lines and that 99% of the roots they come across are on private lines. They are not currently using a root control reagent, just cutting them out when they are identified on City lines. The City does not have a written Root Control Program.

Additionally, rehabilitation efforts were conducted in accordance with the SSES findings. These efforts include upgrading the Pine Hill sewer; completing point repairs in subbasins 4, 8, 26, 27, 33, 35 and 39; rerouting of storm drains; raising manholes; and using door hangers to advise property owners with damaged or missing cleanout caps that the cleanouts need to be properly repaired. The City has also conducted rehabilitation on their 24 inch mainline by having it sliplined about six years ago.

D. SSO Notification and Response

The City is notified of SSOs through calls from the sheriff or City Hall. City personnel stated that during work hours the response time is about 15 minutes, and it is 30 to 45 minutes during off hours.

The SSO response team is a two-man crew with a jet truck. City personnel stated that the response generally consists of unstopping the line then cleaning up the spill area using lime and/or deodorant material. The City currently is not estimating the volume on SSOs which do not reach waters of the U.S. They also are not currently implementing any containment or pump back procedures. The City does not have a written Sanitary Sewer Overflow Response Plan (SORP) that they follow.

Recording and reporting SSOs from the WCTS is an important aspect of system management and is a requirement of the City's AO with EPD. Proper recording and reporting procedures allow for a more accurate picture of system performance that can aid in identifying hotspots in the system in areas that are starting to fail or need additional preventive maintenance.

As stated in Section IV above, the City's Administrative Order with EPD requires the City to document and report each spill including volume, location, and corrective actions. The City has not been recording all of this information for spills that did not reach waters of the U.S.

E. Capacity related issues

The City believes that they are operating with excess capacity in their lines and thus has not conducted any flow modeling. In 2008 the City conducted flow monitoring and smoke testing which did not show substantial inflow/infiltration (I/I) issues within the portions of the WCTS which are maintained by the City, but did show that private cleanouts were currently causing some I/I into the WCTS during rain events. Before 2013 it was the owners' responsibility to maintain their laterals and cleanouts all the way to the main line; however in 2013, due to the limitations this was causing in the City's ability to maintain their WCTS, the City changed the ordinance such that the City maintains anything within the road right-of-way, legal easement, or on City property. Private cleanouts are the owners responsibility to maintain. There is an ordinance by which the City can cite private residences to try to get them to fix the issue, however this does not apply to the county residents.

The City appears to have one location (Oklawaha Avenue) which experiences capacity related SSOs during heavy rain events. During the inspection, City personnel stated that they believe the cause is not I/I within their WCTS but is a result of East Ridge's (Walker County) WCTS becoming surcharged and back flowing into the City's WCTS at the point where the flows join. East Ridge's flow combines with Fort Oglethorpe's flow before arriving at Chattanooga's Spring Hill Lift Station in accordance with an agreement between East Ridge and Fort Oglethorpe. Fort Oglethorpe becomes responsible for East Ridge's flow once it joins into Fort Oglethorpe's WCTS before it enters the Spring Creek Lift Station.

There is no restriction in Chattanooga's inter-jurisdictional agreement with the City on the amount of flow which may be sent to Chattanooga. The City's agreement with Chattanooga expires on May 13, 2017.

F. Fats, Oils, and Grease (FOG) Control Program

City personnel stated that in the residential areas the main cause of SSOs/line stoppages is grease and in the commercial areas the main cause is paper towels and debris. The City does have a FOG ordinance which applies to commercial users. It is enforced through City Hall and requires users to pump their grease trap annually. It also provides for quarterly inspection frequency as well as penalties which may applied if violations are found. The City does not currently have a residential FOG outreach program.

G. Pump Stations and Back-Up Power

The City has ten pump stations currently in operation. Eight additional pump stations have been taken off-line after building gravity interceptors. The City does not have a back-up generator and City personnel stated that in the event of a power outage they call a contractor to assist with the response. Three of the City's pump stations have connections for backup power; however, seven of them do not.

Preventive maintenance is conducted on each pump station two times per week during which the wet well level is checked and electrical maintenance is conducted. However, the City is not recording the run time nor do they have a written pump station preventive maintenance plan. The City also does not maintain a written plan for operation of the pump stations during a power outage situation.

H. Information Management System

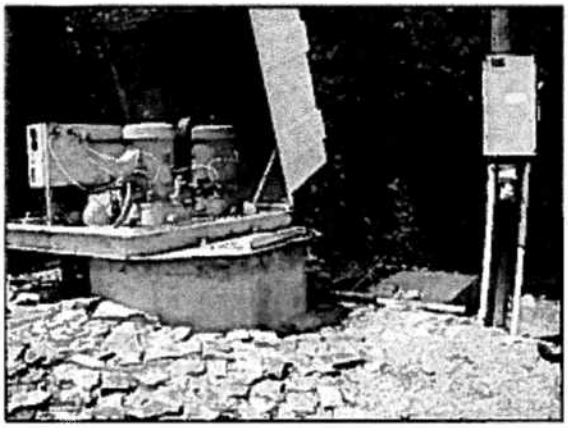
The City has an electronic work order generation and tracking program which was implemented in 2010. Prior to the implementation of this system the City used paper work orders, which they stated were no longer available. The system can be searched and stores a wide variety of types/classifications of information including both preventive and responsive maintenance as well as SSO response information.

The EPA inspector worked within the electronic recordkeeping system to view work orders and citizen complaints and discussed with the City personnel that it would benefit the City to include additional detail in the system related to SSO response including volume estimation, destination information, and a more detailed description of the causes and corrective actions taken, as well as a better way to classify and organize the information so that the SSO information may be more easily extracted.

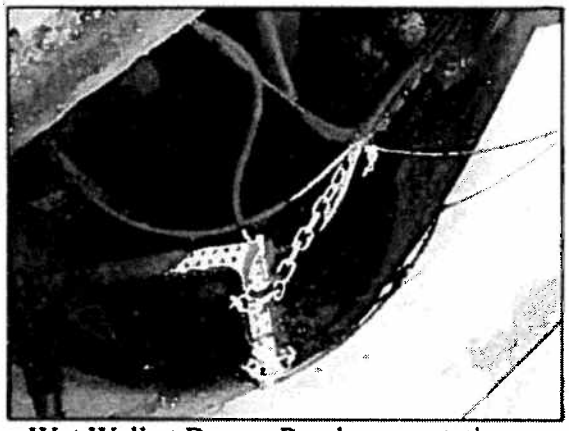
I. Field Observations

The EPA visited various sites in the WCTS including the Beaver Road pump station, the Wal-Mart pump station, and four manholes with recent SSO events: 404 Forrest Road, Stephenson Drive, Oklawaha Avenue, and 26 Vero Beach.

The Beaver Road pump station has a design pumping capacity of 150 gallons per minute. The grounds around the pump station are well kept and the pump station interior is generally clean and appears to be well maintained. This pump station has a back-up generator hook up. Below are pictures of the Beaver Road pump station and wet well.

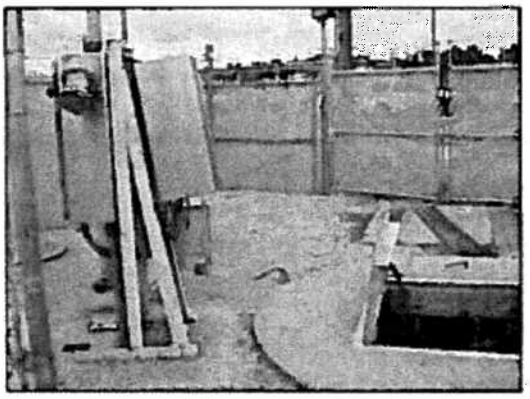


Beaver Road pump station

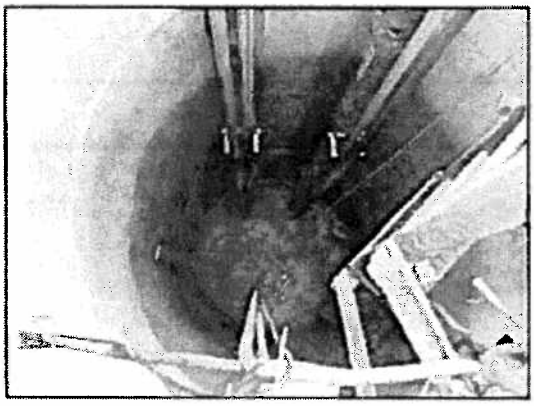


Wet Well at Beaver Road pump station

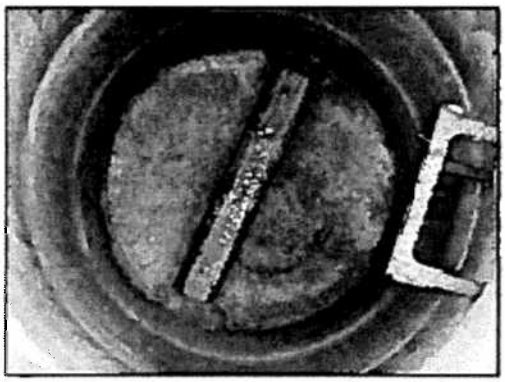
The Wal-Mart pump station has a design pumping capacity of 175 gallons per minute. The grounds around the pump station are also well kept. This pump station has entry only via confined space, so the inspector did not enter the pump station. This pump station has a back-up generator hook up. Below are pictures of the Wal-Mart pump station and wet well. The closest manhole upstream of this pump station was also inspected and showed no signs of surcharging and appeared to be in good condition, also pictured below.



Wal-Mart pump station

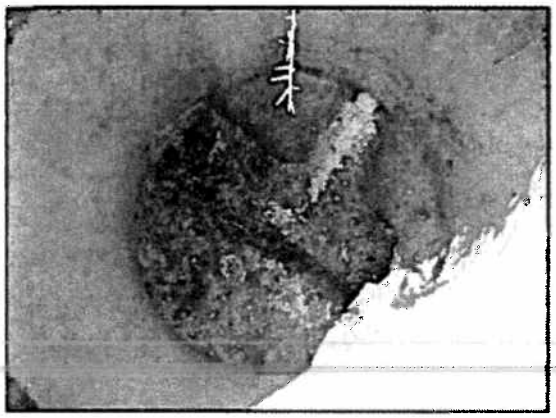


Wal-Mart pump station wet well



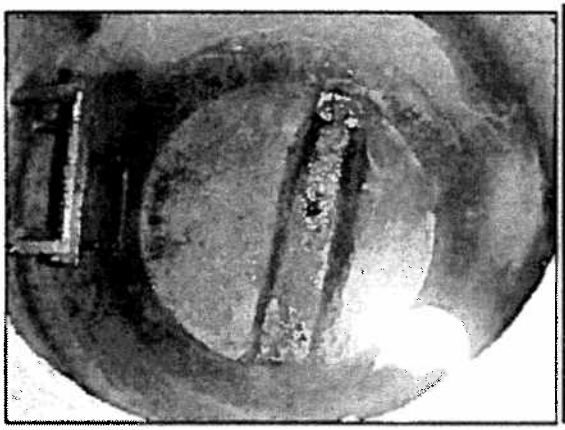
Manhole upstream of Wal-Mart pump station

The EPA inspector also visited four additional manholes with recent SSO events. Below are pictures of 404 Forrest Road and 26 Vero Beach. The SSO events at both of these locations resulted in sewage flowing to a ditch and reportedly being cleaned in the ditch before reaching waters of the U.S. Below are pictures of the manholes and destination ditches of these two SSO locations.



404 Forrest Road

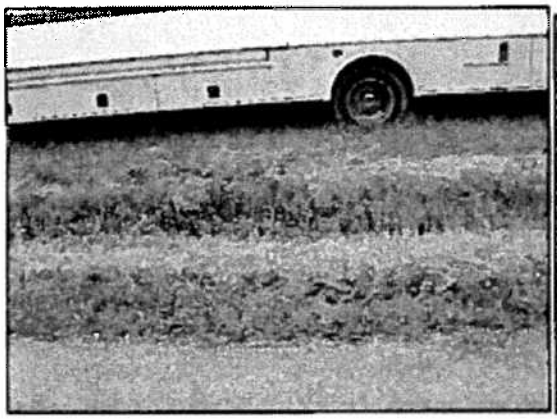
Ditch near 404 Forrest Road



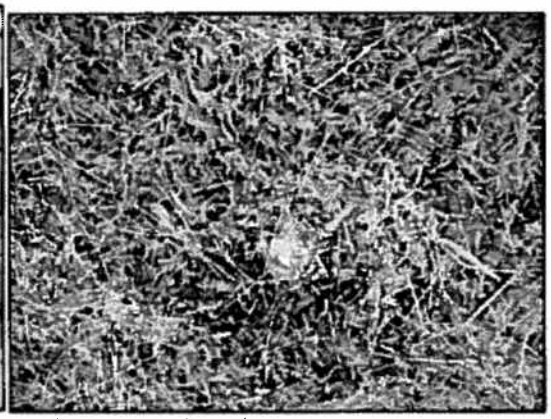
26 Vero Beach

Ditch and path from manhole at 26 Vero Beach

The EPA inspector also visited the recurring SSO location at Stephenson Drive. This clean-out overflowed because of root intrusion and overflowed into a ditch. This manhole could not be accessed directly for repair and was accessed through a nearby manhole. Below is a picture of the clean-out, receiving ditch and the manhole which City personnel went through to access to the cleanout. Some debris was noted in this manhole.



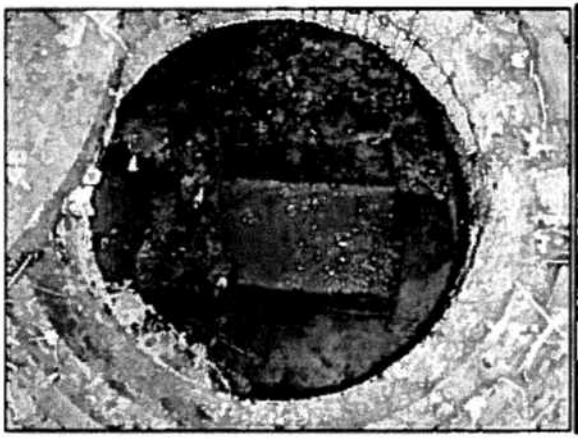
Stephenson Drive ditch



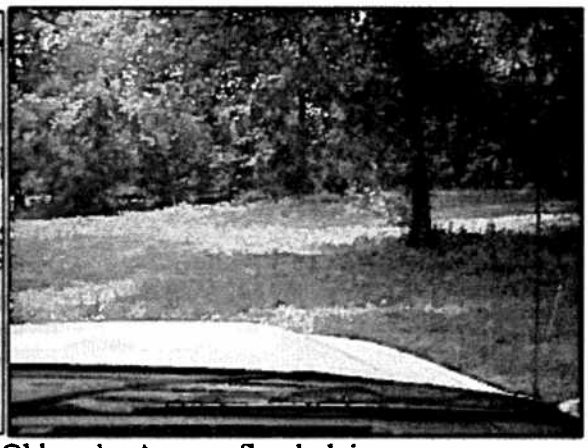
Stephenson Drive clean-out

Stephenson Drive manhole used to access clean-out

Finally, the EPA inspector visited the Oklawaha Avenue manhole which is the manhole location that overflows during heavy rain events as discussed in paragraph V.E. of this report. Also shown below is Black Branch Creek which is about 35 feet away from the manhole and is the receiving water when this manhole overflows. The area surrounding the manhole is a floodplain and the whole area becomes flooded during heavy rain.



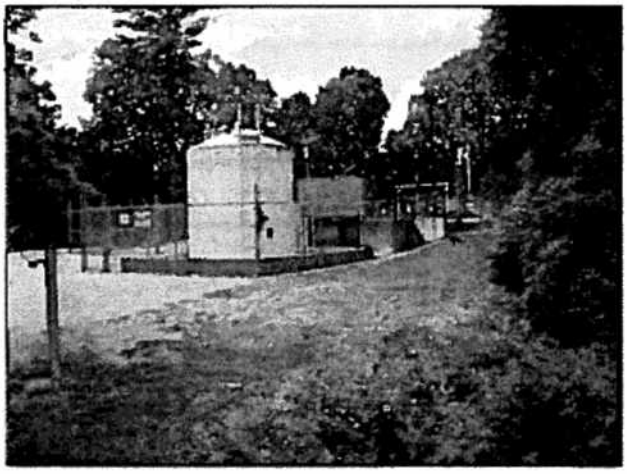
Oklawaha Avenue manhole



Oklawaha Avenue flood plain

Black Branch Creek

The EPA inspector also visited Chattanooga's Spring Creek lift station but could not inspect the station because it is not Fort Oglethorpe's property.



Chattanooga's Spring Creek lift station

VI. FINDINGS AND RECOMMENDATIONS

The City participated in the EPA's CMOM self-assessment program and through the self-assessment as well as EPA's inspection, a number of CMOM programs were identified as in need of development or improvement. The CMOM programs recommended for development include a SORP, gravity line preventive maintenance program, force main preventive maintenance program, FOG outreach program, pump station power outage operation plan, and a pump station preventive maintenance program. In addition, further discussion is suggested among the City, Chattanooga, East Ridge (Hamilton County), and Walker County to discuss and evaluate the issues contributing to the wet weather related SSOs at Oklawaha Avenue.

The Programs that EPA has recommended are known as CMOM programs. CMOM program development guidance documents can be found on EPA, Region 4's website at http://www.epa.gov/region4/water/wpeb/momproject/.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 11 2014

CERTIFIED MAIL 7010 1060 0002 1705 3207
RETURN RECEIPT REQUESTED

Mr. Cleveland T. Grimes
Executive Director
Hamilton County Water and Wastewater Treatment Authority
1250 Market Street - Suite 3050
Chattanooga, Tennessee 37402

Re: Notice of Violation and Opportunity to Show Cause
U.S. Environmental Protection Agency Compliance Evaluation Inspection
National Pollutant Discharge Elimination System Permit No.: TN0021211
Hamilton County Water and Wastewater Treatment Authority, Wastewater Collection and Transmission System

Dear Mr. Grimes:

The purpose of this letter is to advise the Hamilton County Water and Wastewater Treatment Authority (WWTA) that the United States Environmental Protection Agency Region 4 has reviewed the Management, Operations and Maintenance (MOM) Self-Assessment information submitted by WWTA to the EPA on August 22, 2013, as part of the WWTA's participation in EPA's MOM Program Project. In addition, the EPA has also conducted a Compliance Evaluation Inspection (CEI) of WWTA's Wastewater Collection and Transmission System (WCTS). The objective of this CEI was to assess WWTA's compliance with the Clean Water Act (CWA) and its National Pollutant Discharge Elimination System (NPDES) permit. A copy of the CEI report is included with this letter.

Based upon review of the above information, the EPA has determined that the WWTA has violated the CWA as follows:

During the period from January 01, 2009, through January 31, 2014, the WWTA had 936 Sanitary Sewer Overflows (SSOs), totaling 61,885,847 gallons of untreated sewage that discharged from the WWTA's WCTS to navigable waters of the United States as defined by Section 502 of the CWA, 33 U.S.C. § 1362. The EPA considers all 936 SSOs indicative of the WWTA's violation of regulations that requires the WWTA to properly operate and maintain its facility. SSOs in the Signal Mountain Watershed are violations of Section 2.1.4 of the WWTA's NPDES Permit No.: TN0021211, which specifically requires the WWTA to properly maintain and operate all facilities and related appurtenances for collection and treatment.

Until compliance with the CWA is achieved, the WWTA is considered to be in violation of the CWA and subject to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. This Section provides for the issuance of administrative penalty and/or compliance orders and the initiation of civil and/or criminal actions.

Therefore, the EPA requests that representatives of the WWTA contact the EPA within seven business days of receipt of this letter to arrange a meeting in this office to show cause why the EPA should not take formal civil enforcement action against the WWTA for these violations and any other potential violations, including the assessment of appropriate civil penalties. In lieu of appearing in person, a telephone conference may be scheduled. The WWTA should be prepared to provide all relevant information with supporting documentation pertaining to the violations including, but not limited to, any financial information, which may reflect an inability to pay a penalty. The WWTA has the right to be represented by legal counsel.

Please be aware that the EPA may use information provided during the meeting or telephone conference in any enforcement proceeding related to this matter. Failure to schedule a show cause meeting may result in a unilateral enforcement action against the WWTA. Notwithstanding the scheduling of a show cause meeting, the EPA retains the right to bring further enforcement action under Section 309 of the CWA, 33 U.S.C. § 1319, for the violations cited therein or for any other violation of the CWA.

The EPA appreciates the WWTA's participation in the MOM Programs Project. Please contact Mr. Richard Elliott, Enforcement Officer at (404) 562-8691 or via email at elliott.richard@epa.gov to arrange a show cause meeting. If you have any questions regarding this Notice of Violation, please contact Mr. Elliott. Legal inquiries should be directed to Mr. Bill Bush, Associate Regional Counsel at (404) 562-9538.

Sincerely,

James D. Giattina
Director
Water Protection Division

Enclosure

cc: Ms. Tisha Calabrese Benton
Tennessee Department of Environment and Conservation

Ms. Jessica Murphy
Tennessee Department of Environment and Conservation

Ms. Jennifer Innes
Tennessee Department of Environment and Conservation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4
Water Protection Division
Clean Water Enforcement Branch

COMPLIANCE EVALUATION INSPECTION REPORT

Hamilton County Water and Wastewater Authority
Hamilton County
Tennessee
NPDES Permit No. TN0021211

Facility Address:
1250 Market Street
Chattanooga, Tennessee 37402

Inspection Dates:
June 11, 2014

Inspectors:
Richard Elliott, Enforcement Officer, EPA Region 4
Sara Schiff, Enforcement Officer, EPA Region 4

Inspection Report Prepared by:
Richard Elliott, P.E.

June 17, 2014

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ABBREVIATIONS AND ACRONYMS

CEI	Compliance Enforcement Inspection
CMOM	Capacity, Management, Operation, and Maintenance
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	United States Environmental Protection Agency
FOG	Fats Oils and Grease
GIS	Geographic Information System
GPM	Gallons per Minute
I/I	Infiltration and Inflow
ICIS	Integrated Compliance Information System
MGD	Million Gallons per Day
MOM	Management, Operation, and Maintenance
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works
PS	Pump Station
RDII	Rain Derived Infiltration and Inflow
SORP	Sewer Overflow Response Plan
SSES	Sanitary Sewer Evaluation Survey
SSO	Sanitary Sewer Overflow
STP	Sewer Treatment Plant
TDEC	Tennessee Department of Environmental Conservation
WCTS	Collection and Transmission System
WWTP	Wastewater Treatment Plant

I. OVERVIEW

Hamilton County Water and Wastewater Authority (WWTA), provides drinking water and sanitary sewer services to approximately 27,000 residential customers in Hamilton County, Tennessee. The service area is approximately 576 square miles with a total estimated population of 345,545. WWTA is responsible for 394 miles of gravity sewer, 55 miles of force main, 60 Pump Stations (PS) and one Wastewater Treatment Plant (WWTP).

On September 27, 2011, the EPA notified WWTA in writing of the third cycle of Publicly Owned Treatment Works (POTW) Management, Operation and Maintenance (MOM) program project and invited WWTA to voluntarily participate. The outlined steps required for program participation included the need for the POTW to conduct a self-assessment and undergo EPA/Tennessee Department of Environmental Conservation (TDEC) MOM inspections.

The EPA conducted a Compliance Evaluation Inspection (CEI) of WWTA's sewer system on June 11, 2014. The purpose of this CEI was to evaluate compliance with the Clean Water Act (CWA) as it relates to Sanitary Sewer Overflows (SSOs) from the sewer system and to assess the WWTA's MOM programs. Additionally, the purpose of this compliance inspection was to examine the causes and potential corrective actions for SSOs from the Wastewater Collection and Transmission System (WCTS). WWTA is also a satellite community to the City of Chattanooga in the sense that wastewater from a large portion of Hamilton County is conveyed to the City of Chattanooga for treatment.

During the inspection, the EPA requested written documentation of any MOM programs that the WWTA may use to operate and maintain the WCTS. The EPA also discussed inspection and maintenance records, interviewed management personnel and visited various sites in the WCTS, including the Lee Highway and Rogers Branch Pump Stations and the Signal Mountain Wastewater Treatment Plant. This report describes EPA's findings, identifies areas that need to be addressed and presents preliminary recommendations.

II. OBJECTIVES

The specific objectives of the inspection were to assess the WWTA's compliance with the CWA, evaluate reported SSOs, assess the MOM programs, where implemented, and to examine the causes of SSOs in the WWTA's sewer system. Additionally, this inspection was intended to assess the impacts if any, that WWTA has on the City of Chattanooga's WCTS and WWTP. A significant portion of the wastewater from WWTA is conveyed to the City of Chattanooga for treatment.

III. INVESTIGATION METHODS

The investigation included:

- Review of the Integrated Compliance Information System - National Pollutant Discharge Elimination System (ICIS-NPDES) federal database, state documents and the NPDES Permit;

- Review of the WWTA (Signal Mountain) NPDES permit and related documents;
- Review WWTA's documentation submitted as part of the EPA's MOM program participation
- Interviews with the WWTA's Wastewater Division personnel; and,
- Visual inspection.

IV. REGULATORY SUMMARY

TDEC is authorized under the CWA to implement the NPDES program in Tennessee. The Signal Mountain Sewage Treatment Plant (STP) is authorized by TDEC under permit No. TN0021211 to discharge treated effluent into the Tennessee River. The treatment facility is classified as non-major with a design treatment capacity of 0.40 Million Gallons per Day (MGD). The STP operator indicates that the plant has the capacity to operate as high as 1.3 MGD during wet weather events.

SSOs that impact waters of the U.S. are prohibited discharges based on Sections 301 and 402 of the CWA which generally prohibits the discharge of pollutants by any person unless authorized by an NPDES permit. Section 2.3.3.a of the City's Permit defines an "overflow" as "any release of sewage from any portion of the collection, transmission, or treatment system other than through permitted outfalls," and furthermore states in Section 2.3.3.b that "overflows are prohibited," and, in Section 2.3.3.c, that "The permittee should operate the collection system so as to avoid overflows. No new or additional flows should be added upstream of any point in the collection system which experiences chronic overflows (greater than 5 events per year) or would otherwise overload any portion of the system."

V. INSPECTION SUMMARY AND FINDINGS

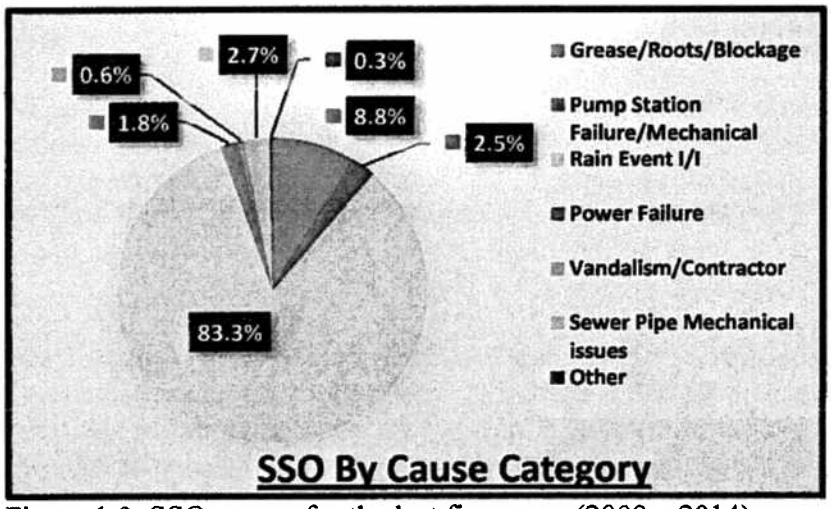
The EPA performed a pre-inspection evaluation and an on-site inspection of the WCTS. The pre-inspection evaluation of the WWTA's WCTS consisted of examining historic records submitted by the facility to TDEC and the EPA pursuant to the aforementioned self-assessment . This section will provide a summary of both means of evaluation as well as any recommendations to the facility to improve the WCTS performance.

A. Analysis of SSOs

Discharges to waters of the United States from sanitary sewer systems are prohibited unless authorized by an NPDES permit. In addition, overflows from the sewer system that do not reach waters of the United States can be indicative of a failure to comply with the proper operation and maintenance provisions of Part 2, Sections 2.1.4 and 2.3.3.c of the NPDES permit.

WWTA submitted information to the EPA related to SSOs that occurred from January 2009 through January 2014. The EPA analyzed the information and compiled results based on total number of overflows. The EPA also categorized the SSOs by cause which included seven categories: Grease/Roots/Blockage, Pump Station/Mechanical Failure, Rain Events or Inflow/ Infiltration (I/I), Power Failure, Vandalism/Contractor, Sewer Pipe Issues and

Other/unknown. The blockage category includes unknown obstructions and debris other than roots and grease. Figure 1 summarizes the information collected from the WWTA's MOM submittal and during the Compliance inspection.



SSO Cause Category	SSO Count
Grease/Roots/Blockage	82
Pump Station Failure/Mechanical	23
Rain Event I/I	780
Power Failure	17
Vandalism/Contractor	6
Sewer Pipe Mechanical Issues	25
Other	3
TOTAL	**936**

Figure 1.0: SSO causes for the last five years (2009 – 2014).

The SSO cause categories listed above are summarized from WWTA internal MOM data system. Pump station failures include all mechanical, electrical and/or pump malfunctions; Rain Event or I/I indicates SSOs that are caused by pipe capacity limitations during wet weather; Contractor related SSOs were caused by work crews other than those of the WWTA during contract work and Sewer Pipe Mechanical Issues refer to overflows caused by incorrect sewer alignment or disjointed pipes. The data shows that more than 80% of the SSOs are due to rain events or I/I. WWTA reported a total of 936 SSOs that amounted to an annual average of 47.5 SSOs per 100 miles of sewer per year. In addition, the average volume of SSO per year (66,117 gallons) and the average volume of SSO per year per 100 miles of sewer (3,141,414 gallons) are all significantly above what is typically found in other municipalities of comparable size.

B. Management Interview

The EPA met with representatives of WWTA (including Cleveland Grimes, WWTA Executive Director) at 9:30 a.m., June 11, 2014, in their Chattanooga office. Topics of discussion during the meeting included the use and documentation of any MOM programs including Fats, Oil, and Grease (FOG) Control, Root Control, Capacity Assurance, Preventive Maintenance and Inspections, Emergency Response, Pump Station Back-up Power, reporting procedures and the existing operating relationship between WWTA and the City of Chattanooga that provides wastewater treatment for a large section of Hamilton County. The EPA also discussed WWTA's compliance with the March 2008 Order issued by TDEC for violations of the CWA at the Signal Mountain treatment facility and related SSOs.

The EPA discussed concerns relating to SSOs in detail with the WWTA representatives and inquired about each program listed above to determine whether a formal or non-formal (not in writing) program existed to manage various maintenance and operations needs of the WCTS.

The EPA Region 4 MOM Program Project invites POTW's that discharge into select watersheds to enter into an Administrative Oder on Consent for the purposes of performing a self-evaluation and to develop and implement MOM appropriate programs guided by the self-evaluation performed. WWTA is a voluntary participant in this MOM Program Project and as such has submitted self-assessment documentation. A review of these submittals combined with this CEI, forms the basis for the recommendations and conclusion outlined in this report. In general, WWTA has written operating procedures for many of the MOM programs that the EPA recommends, however, improvements are needed in several program areas. At the time of this inspection, WWTA were in the process of conducting a system wide evaluation of the WCTS with the intention to use the data generated as a guide to prioritize repairs. Repairs are expected to be conducted with an approach that addresses the most critical (high priority in terms of most defects) areas first.

C. Site Inspection

The EPA performed an on-site inspection of various points in the WCTS. Several sites were chosen based on their SSO history. The EPA inspected several manholes and pump stations as well as the site of some of the largest SSOs in the last 3 years and the Signal Mountain Treatment Plant.

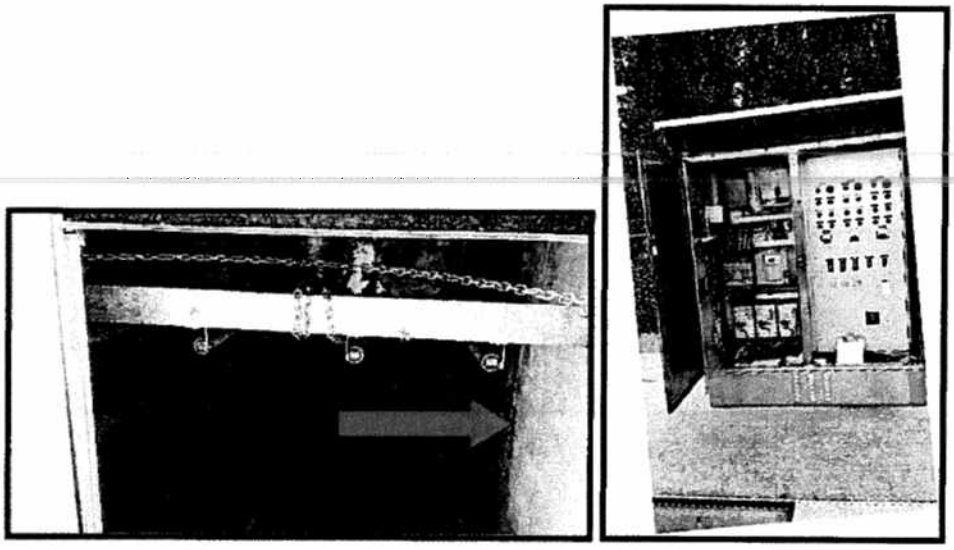


Figure 2: Rogers Branch PS showing high water mark in wet well (on left) and Electrical panel (on right).

Figure 3: Signal Mountain Sewage Treatment Plant

VI. Recommendations and Conclusion

A. Recommendations

The EPA noted several preventive maintenance procedures WWTA is utilizing that are in keeping with best management practices to operate and maintain the system; however, the EPA recommends that WWTA develop formal (or expand if already developed) written programs for these preventive maintenance procedures and programs. Developing formal written programs will aid in refining these programs, which should increase efficiency of the programs and provide guidance for the implementation of these programs that can be passed down to the next maintenance generation.

MOM program development guidance documents can be found on EPA, Region 4's website at http://www.epa.gov/region4/water/wpeb/momproject/.

Recommended MOM programs include:

a. Mapping Program

Formal Mapping Program documentation should be developed to ensure consistency of map protocol and to provide official guidance for map review and maintenance. A GIS based map should be developed and integrated into the asset management procedures for the WCTS.

b. Root Control Program

The EPA recommends that WWTA develop documents that outline procedures and provide guidance on how to manage and reduce root growth and intrusion into the WCTS. In developing this program, WWTA should consider the various best practices currently being used to manage root intrusion.
WWTA does not currently use chemical root control. Root intrusion is mainly controlled by cutting (mechanical) and rodding during cleaning.

c. Preventive Maintenance and Inspection Programs

The EPA recommends that WWTA develop formal written MOM Programs with an aggressive Preventive Maintenance and Inspection Program that defines goals for cleaning and inspection activities and pump station preventive maintenance activity, including:

A **Gravity Line Preventive Maintenance Program**. The Gravity Line Preventive Maintenance Program should include the following components: 1) blockage abatement mechanisms (including both hydraulic and mechanical cleaning); 2) root control mechanisms; 3) debris control mechanisms, and 4) manhole preventive maintenance procedures. This program should include the following activities; 1) identification of, and provision for, all personnel and equipment needed; 2) determination of the frequency; 3) establishment of procedures; 4) establishment of priorities for scheduling; 5) the use of standard forms; 6) establishment of record keeping requirements; 7) establishment of performance measures; and 8) integration of all data collected under the program with other information management systems.

A **Continuing Sewer System Assessment Program (CSSAP)**. The CSSAP should establish procedures for setting priorities and schedules for undertaking the WCTS assessment including; 1) corrosion defect identification, 2) routine manhole inspections, 3) flow monitoring, 4) CCTV activities, 5) gravity system defect analysis, 6) smoke testing, and 7) pump station performance and adequacy analysis. The CSSAP should provide for the assessment of at least ten percent (10%) of the WCTS on average per year and establish priorities and schedules taking into consideration the nature and extent of customer complaints; flow monitoring; location and cause of SSOs and WCTS deficiencies; any remediation work already ongoing; pump station run times; field crew work orders; any preliminary sewer assessments, such as flow monitoring results; community input; and any other relevant information.

An **Infrastructure Rehabilitation Program (IRP)**. The IRP should establish procedures for setting priorities and schedules for undertaking rehabilitation of the WCTS. The IRP should address Infiltration/Inflow (I/I), structural issues in the WCTS, and the other conditions causing SSOs, with the goal of eliminating future SSOs. The IRP should take into account all previous information WWTA has gathered including any information gathered pursuant to the CSSAP. The IRP should also establish standard procedures to analyze the effectiveness of completed rehabilitation projects.

A **Pump Station Operations and Preventive Maintenance Program**. The Pump Station Operation and Preventive Maintenance Program should include or address the following items/components described below:

i. Pump station operations at pump stations that are to be conducted on a routine, scheduled basis. The program should define the standard pump station operating procedures to be followed at each pump station such as reading and recording information from the elapsed time meters, recording information from the pump start counters, observing wet well conditions and grease accumulation, checking and re-setting, as necessary to improve system performance, wet well set points, checking and recording system pressure, checking SCADA (or equivalent system) components, checking alarms and stand-by power and identifying maintenance needs.

ii. Emergency pump station operations procedures. The program should address pump station operations at pump stations that are to be conducted as a result of equipment failure or loss of electrical power. The program should define the emergency pump station operating procedures to be followed at each pump station such as calling for emergency maintenance, initiating stand-by power by bringing in portable generators or initiating portable pump operations for pump around.

iii. The program should establish schedules, routes, priorities, standard forms and reporting procedures and establish minimum acceptable performance measures and condition grading criteria.

Preventive Maintenance and Inspection Programs can have a significant positive impact on the future condition of the WCTS. A properly implemented Preventive Maintenance and Inspection Program may prevent a massive outlay of expenses needed to repair or replace parts of the system that WWTA personnel 'did not see' failing due to the lack of prevention. Relatively small preventive maintenance expenses now can save WWTA larger repair expenses in the future.

d. Sewer Overflow Response Plan (SORP)

The EPA recommends that WWTA expand its SORP using the guidelines provided below that will establish timely and effective methods and means of responding to, cleaning up, and/or minimizing the impact of SSOs and building back-ups; establish procedures to timely report of the time, date, location, volume, cause, impact, and other pertinent information of all SSOs and building back-ups to the appropriate regulatory agencies; and notification methods to the potentially impacted public. The SORP should have the following components:

i. The SORP should provide procedures for orally reporting to TDEC the location of any SSO by street address or any other appropriate method (i.e., latitude-longitude) within twenty-four (24) hours of the time WWTA first becomes aware of the SSO.

ii. The SORP should provide procedures for written reporting to TDEC within five (5) days of the time WWTA first becomes aware of the SSO. At a minimum,

a written report should contain the following:

a. Location of the SSO by street address, or any other appropriate method (i.e., latitude-longitude).

b. Estimated date and time when the SSO began and stopped, or if still active, the anticipated time to stop the SSO.

c. Steps taken to respond to the SSO.

d. Ultimate destination of the SSO, such surface waterbody (by name), if applicable, storm drain leading to surface waterbody (by name), dry land, building, etc.

e. An estimate of the volume (in gallons) of sewage discharged.

f. Description of the sewer system component from which the SSO was released (ie., manhole, crack in pipe, pump station wet well, etc...).

g. Estimate of the SSO's impact on public health and water quality in the receiving water body.

h. Cause or suspected cause of the SSO.

i. The date of the last SSO at the same location within the past five years.

j. Steps taken or to be taken to reduce, eliminate, and prevent recurrence of the SSO with a schedule of major milestones for those steps.

k. Report of all notifications to the public and other agencies or departments.

iii. The SORP should provide procedures for maintenance of records for at least five (5) years from the date of an SSO, including all written and/or electronic documents including but not limited to: written reports to TDEC; field crew notes, work orders, pictures, response times and corrective actions taken; records documenting steps that have been and will be taken to prevent the SSO from recurring, including work order records associated with investigation and repair activities; and a list and description of complaints from customers or others regarding an SSO.

iv. The SORP should establish procedures for identifying the cause of an SSO, for identifying the extent of potential threats to human health or the environment from the SSO, and for quantifying the volume and duration of the SSO.

v. The SORP should provide procedures for responding to SSOs in a timely manner to minimize the environmental impact and potential human health risk, and should include, but not be limited to, the following:

a. A detailed description of the procedures to immediately provide notice to the public that may be impacted by the SSO (through the local news media or other means including without limitation signs or barricades to restrict access).

b. A detailed description of the procedures for ensuring that WWTA is made aware of all SSOs as expeditiously as possible, and the responsibilities of employees (by position) charged with responding to SSOs.

c. A detailed description of the procedures to provide notice to appropriate local agencies/authorities.

d. A detailed description of the procedures (including response standard operating procedures) to minimize the volume of untreated wastewater discharged at an SSO location.

e. A detailed description of pump station-specific emergency procedures, bypass/ pump-around strategies, and estimated storage capacity (i.e., maximum volume of sewage that can be stored in the event of a pump station failure or repair without causing an SSO and estimated time during which sewage can be stored before an SSO will occur).

f. In the event that a repair may cause or lengthen the time of an SSO, a detailed procedure for determining when additional storage or pump around will be needed.

g. A detailed plan for cleaning up all SSOs completely and expeditiously.

h. A detailed plan describing the standard operating procedures to be followed by WWTA personnel in responding to building backups, including:

i. Methods for communicating with customers about how to report building backups and how to obtain clean-up.

ii. Response to building backups, including timeframe for responses, measures to be taken to clean up building backups caused by conditions in WCTS, procedures to disinfect and/or remove potentially contaminated items (ie., wet vacuuming, wiping floors and walls with disinfectant, flushing out and disinfecting plumbing fixtures, carpet cleaning or replacement), procedures to correct or repair conditions in the sewer system causing or contributing to the building backup, and the follow-up process to insure adequacy of cleanup.

iii. Resources to correct or repair the condition causing or contributing to the building backup.

iv. The process a customer may follow to dispute a determination by WWTA personnel that a wastewater backup into a building is caused by a blockage or other malfunction of a private lateral, and therefore is not a building backup.

vi. The SORP should provide procedures for providing adequate training necessary for WWTA employees, contractors, and personnel of other affected agencies to effectively implement the SORP. The SORP should provide training guidelines to ensure adequate response training is provided to management and field personnel responsible for responding to SSOs. The SORP should provide procedures for adequate training to response personnel for estimating volumes from SSOs.

vii. WWTA should establish procedures for remedying the cause of an SSO. Standard repairs for typical SSO causes should be identified, as should the resources needed and available for such repairs. Procedures for diverting flow around blockages or line failures should be included, as should procedures for minimizing human contact with sewage. Standard containment procedures for typical SSOs should be identified.

viii. WWTA should identify and include in the SORP a list of those SSO locations within the WCTS that have been recorded as overflowing more than once in a 12 month period and those locations at which an SSO is likely to occur first in the event of pump station failure for each pump station. The SORP should provide procedures for establishing routine inspection routes to be performed after each rain event. The inspection routes should include all SSO locations identified as having occurred more than once in a 12 month period, and all pump stations that are not monitored at a central location via remote monitoring devices.

ix. WWTA should ensure all SSOs are thoroughly documented and tracked by location, date, and volume.

B. Conclusion

The facility's personnel appear knowledgeable about the operation and maintenance of the system; however, some of the deficiencies noted above are of concern. Deficiencies in the area of recording and reporting and preventive maintenance have the potential to cause the facility to violate conditions of the NPDES Permit. Also, the inadequacies noted in managing I/I is the major cause for SSOs in the WCTS. This deficiency in controlling I/I highlights the need for improved MOM programs as well as the completion of significant conveyance infrastructure improvements.

The WWTA is in the process of assessing several basins and SSO hot spots but has yet to fully utilize the data gathered in terms of constructing capital projects aimed at eliminating the SSOs. Based on the data submitted to the EPA, WWTA should strengthen its cleaning and roots management program; ensure that all pump stations are adequately sized and either have backup power onsite or be able to connected to portable generators; and implement capital projects to address sewer pipe defect/alignment, remove I/I and other wet weather capacity issues.